

**Notice of Allowability**

Application No.

10/502,219

Examiner

Fred M Teskin

Applicant(s)

BHADURI ET AL.

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to \_\_\_\_\_.
2. ☒ The allowed claim(s) is/are 1-18,20-26 and 28-35.
3. ☐ The drawings filed on \_\_\_\_\_ are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 072104
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

**Reasons for Allowance**

The following is an examiner's statement of reasons for allowance:

The claims are allowed primarily because the prior art fails to teach or fairly suggest an olefin polymerization titanium catalyst comprising a titanium compound and an organoaluminum compound cocatalyst supported on a soluble polysulfone comprising free sulfone groups, wherein the proportions of Ti to Al and of Ti to polysulfone are respectively defined by the molar ratio and weight ratio ranges set forth in claims 1, 8 and 20.

Of the prior art of record, Newton '010 (cited herewith) is considered representative of the most pertinent art, in that it discloses grinding  $\text{TiCl}_3$  with an aromatic sulphone and  $\text{TiCl}_4$  to produce suspensions of  $\text{TiCl}_3$  material which, together with added organoaluminum compound, form a catalyst composition for polymerizing olefins such as propylene (note Examples 1 and 89-93). There is no teaching or suggestion, however, of utilizing a *polysulfone* as a catalyst support, let alone of supporting both the titanium compound and the organoaluminum compound cocatalyst on a soluble polysulfone comprising free reactive sulfone groups, as claimed.

Other prior art of record, such as WO '067, EP '622 and Willcox, teach adding to olefin polymerizations catalyzed with Ziegler-Natta type catalysts, an additive or agent that may contain a polysulphone copolymer for the purpose of reducing fouling or preventing adhesion in the reaction system. None of such art teaches or remotely suggests the utility of a soluble polysulfone comprising free reactive sulfone groups as a catalyst support for the titanium compound and organoaluminum compound cocatalyst.

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In fact, WO '067 expressly advises against adding its process aid additive (which may contain a polysulphone copolymer) in admixture with the catalyst or cocatalyst (p. 4, lines 2-4).

Accordingly, for the above-stated reasons, claims 1-18, 20-26 and 28-35 are deemed to define allowable subject matter and are passed to issue.


Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication should be directed to Examiner F. M. Teskin whose telephone number is (571) 272-1116. The examiner can normally be reached on Monday through Thursday from 7:00 AM - 4:30 PM, and can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (571) 272-1114. The appropriate fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

FMTeskin/03-14-05

  
FRED TESKIN  
PRIMARY EXAMINER  
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